ABSTRACT

The present invention includes a system, method and applications for real-time messaging between any communicating entities that includes but is not limited to the use of the HTTP protocol (and its derivations) for communications. Communicating entities can include but not be limited to web servers and web browsers. The invention describes a system and method that includes real-time communications between servers and web browsers using the standard HTTP type protocols. The machine on which the web browser resides need not utilize any additional installed components, plug-ins, additional software to receive messages from the web server in real-time. Furthermore, the web browser need not utilize the inefficient method of polling (smart-pull) to periodically query the web server for new messages. Using a standard off-the-shelf web browser, the server with which the web browser communicates, may send one or more messages to the web browser whenever an event occurs on the web server to warrant this action. Furthermore, the messages may be sent from the server to the web browser using standard Internet protocols (e.g., HTTP type protocols) and thus passes through filtering systems allowing the messaging system to operate ubiquitously across the Internet, intranets, extranets, or any IP networks.

The invention describes an event notification system that may use the real-time messaging capabilities to support real-time one-to-one, one-to-many and many-to-many communications.

Furthermore, the invention describes an application of the real-time messaging system for use in distance learning applications where the trainer and the students are remotely located from each other. The Interactive Question & Response (IQ&A) service provides for real-time question and response collaboration between students and the trainer during live, distance learning sessions over the Internet, or any network. Additional applications of the real-time messaging are described including remote page flips, real-time polling, group membership, alert notification, annotation service, follow-me browsing, instant messaging, chat, real-time discussion groups, real-time email, text based speech. Also, the invention includes providing the real-time messaging system as a service. Finally, the invention describes how the real-time system may be arranged in various configurations to provide for highly scalable real-time messaging for large-scale applications.